**Remarks/Arguments:**

This is a reply to the office action of June 12.

The abstract has been rewritten in a single paragraph, and complies with the rules, particularly those mentioned by the examiner.

Claims 28, 29, 36, 39, 45, 47, 49 and 50 were objected to for formal reasons identified by the examiner. Claims 49 and 50 have been canceled; the other claims have been revised as suggested.

Regarding the rejection of claims 28 - 50 under section 112, claims 28, 36, 41 and 45 have been revised to clarify the breadth of the claims.

In claims 30, 31, 46 and 48, "figure" was intended to mean the shape of the thing being cast, or the casting itself. We have amended the claims to describe more correctly what was meant in each instance.

The term "mushrooms" is used repeatedly in this application to mean "mushroom-shaped" objects. The "mushrooms" were identified at page 25 of the PCT publication WO2005/002761 as items 39, which are called out in Figs. 3, 11 and 12. No single technical word occurs to us having the intended meaning of "mushrooms"; however, we think "headed studs" is correct, and have made that substitution in amending the claims.

Turning to the prior art rejections, claims 28 - 33, 44 - 46 and 48 were rejected as anticipated by Voisin (U.S. Patent 3,874,440).

Claim 28 has been amended to recite that the invention requires a mold having open feeding risers on top of the mold for holding extra molten metal and feeding molten metal into the mold as the metal shrinks and for attracting any slag, fumes and gases contained in the molten metal. Voisin lacks such a feature, and would therefore not be useful either both pressure casting or gravity casting, at the choice of the user.

Claims 41, 42, 49 and 50 were rejected as obvious over Voisin in view of Farkas (U.S. Patent 6,449,529).

Claims 34 - 40, 43 and 47 were rejected as obvious over Voisin alone. The examiner, while acknowledging that Voisin lacks quick lock means and "mushrooms" moved in the slots to lock the ejector plate and plate holder, or sides that are moved by hydraulic cylinders, reasoned that to supply the missing items would have been obvious to a person of ordinary skill in the art.

The invention combines a traditional gravity casting process with a traditional low pressure casting process.

In a gravity casting process, the mold is provided with a lateral duct or channel for feeding molten metal from above to the mold cavity from a crucible. To compensate for the shrinkage of the cooled metal and for releasing gases, the mold has at least one second duct which extends upwards from the cavity and which is open to the atmosphere. These ducts are commonly known as "open risers". Molten metal is poured into the mold cavity until it fills the cavity and the open risers. Then, after flow of metal through the feeding channel is stopped, as the metal shrinks, the mold cavity is kept full because of the metal contained in the open risers, which, by gravity, tends to return towards the cavity.

In a low pressure casting process, the feeding channel or duct connects the mold cavity with a furnace placed under the mold. Feeding risers open at the top of the mold, that is opposite to the feeding channel, are completely absent, because the pressure exerted on the molten metal in the furnace compensates for the shrinkage.

The present invention works like a low pressure process but also has the open feeding risers of a gravity casting process, providing the advantages of both the technologies. A mold for this new process can be converted to a mold for a traditional gravity casting process simply by closing off the feeding channel at the bottom which connects the mold to the furnace below.

The new process requires the use of sealing means for closing the top of the open risers and of suction means for removing fumes and gas from the mold.

The casting machine does not comprise the mold; however, claim 41 is deemed patentable for the tilting arm recited, with the sealing means for the open risers. None of the prior art documents discloses such a casting machine.

We believe that the amended claims are technically clear and distinguish the invention from the prior art, particularly Voisin, Farkas individually or in combination, and that this application is in condition for allowance.

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